IN THE CLAIMS

Please cancel claims 1-3, 15-24 and 34-40 without prejudice. Applicants reserve the right to pursue the cancelled claims in a related application.

CURRENT STATUS OF ALL CLAIMS IN THE APPLICATION

1. (canceled)

2. (canceled)

3. (canceled)

4. (original) A computer implemented method for arranging polymers for combinatorial synthesis of said polymers on a substrate comprising:

reducing edge count between said polymers comprising:

dividing said polymers into a plurality of blocks, wherein each of said block comprising one or more related polymers, wherein each of said blocks is to be assigned to one slot on said substrate; and

selecting a subset of said blocks from unassigned blocks; and

assigning one block of said blocks in said set to an empty slot, wherein said one block is the best fitting and results in a least edge count among said blocks of said subset.

5. (original) The method of Claim 4 further comprising repeating said steps of selecting and assigning until all blocks are assigned.

6. (original) The method of Claim 5 wherein said assigning comprises:

computing a plurality of edge counts, each of said edge counts represents the result of assigning one block of said subset to said empty slot;

comparing said edge counts and selecting said best fitting block, wherein said best fitting block has said least edge count.

7. (original) The method of Claim 6 wherein said blocks are ordered randomly and said selecting step comprises selecting the first subset among unassigned blocks.

8. (original) The method of Claim 7 wherein the last of said subsets has no more than 100 blocks and other said subset has at least 20 blocks and no more than 100 blocks.

9. (original) The method of Claim 7 wherein the last of said subset has no more than 1000 blocks and other said subset has at least 100 blocks and no more than 1000 blocks.

10. (original) The method of Claim 7 wherein the last of said subsets has no more than 10000 blocks and other said subset has at least 1000 blocks and no more than 10000 blocks.

11. (original) The method of Claim 7 wherein said polymers are oligonucleotides.

12. (original) The method of Claim 11 wherein said combinatorial synthesis is radiation directed synthesis.

13. (original) The method of Claim 12 wherein said radiation directed synthesis

comprises steps of controlling irradiation to active synthesis site using a mask.

14. (original) The method of Claim 13 wherein said edge count is a weighted edge count taking into account distance to cell leaking radiation.

15. (canceled)

16. (canceled)

17. (canceled)

18. (canceled)

19. (canceled)

20. (canceled)

21. (canceled)

22. (canceled)

23. (canceled)

24. (canceled)

25. (original) A computer software product for arranging polymers for combinatorial synthesis of said polymers on a substrate comprising:

code for reducing edge count between said polymers comprising

code for dividing said polymers into a plurality of blocks, wherein each of said blocks comprises one or more related polymers, and wherein each of said blocks is to be assigned to one slot on said substrate; and

code for selecting a subset of said blocks from unassigned blocks; and

code for assigning one block of said blocks in said set to an empty slot, wherein said one block is the best fitting and results in a least edge count among said blocks of said subset; and

a computer readable medium for storing said code.

26. (original) The computer software product of Claim 25 further comprising code for repeating execution of said codes of selecting and assigning until all blocks are assigned.

27. (original) The computer software product of Claim 26 wherein said code for assigning comprises:

code for computing a plurality of edge counts, each of said edge counts represents the result of assigning one block of said subset to said empty slot; and

code for comparing said edge counts and selecting said best fitting block, wherein said best fitting block has said least edge count.

28. (original) The computer software product of Claim 27 wherein said blocks are ordered randomly and said code for selecting comprises code for selecting the first subset among unassigned blocks.

29. (original) The computer software product of Claim 28 wherein the last of said subsets has no more than 100 blocks and other said subset has at least 20 blocks and no more than 100 blocks.

30. (original) The computer software product of Claim 28 wherein the last of said subset has no more than 1000 blocks and other said subset has at least 100 blocks and no more than 1000 blocks.

31. (original) The computer software product of Claim 28 wherein the last of said subsets has no more than 10000 blocks and other said subset has at least 1000 blocks and no more than 10000 blocks.

32. (original) The computer software product of Claim 28 further comprising code for inputting size of subsets.

33. (original) The computer software product of Claim 28 wherein said edge count is a weighted edge count taking into account distance to cell leaking radiation.

34. (canceled)

35. (canceled)

36. (canceled)

37. (canceled)

38. (canceled)

39. (canceled)

40. (canceled)